

Docket Number
70404.106/ha

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Takeshi YAMAMOTO et al.	Art Unit: 2612
Application No.: 10/598,098	
Confirmation No.: 1025	Examiner: M. Rushing
Filed: August 17, 2006	
Title: ONBOARD DISPLAY DEVICE, ONBOARD DISPLAY SYSTEM AND VEHICLE	

APPEAL BRIEF UNDER 35 U.S.C. § 134(a)

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is an Appeal pursuant to 35 U.S.C. § 134(a) from the rejection of claims 34-46 in the Final Office Action dated March 31, 2010.

Application No.: 10/598,098

June 1, 2010

Reply to Final Office Action dated March 31, 2010

Page 2 of 19

REAL PARTY IN INTEREST:

The real party of interest is the assignee, Sharp Kabushiki Kaisha, 22-22, Nagaike-cho, Abeno-ku, Osaka-shi, Osaka, 545-8522, Japan.

Application No.: 10/598,098

June 1, 2010

Reply to Final Office Action dated March 31, 2010

Page 3 of 19

RELATED APPEALS AND INTERFERENCES:

Appellant, assignee, and the undersigned attorney of record are not aware of any prior or pending appeals, judicial proceedings, or interferences which may be related to, directly affect, or be directly affected by or having a bearing on the Board's decision in the pending Appeal.

Application No.: 10/598,098

June 1, 2010

Reply to Final Office Action dated March 31, 2010

Page 4 of 19

STATUS OF CLAIMS:

Claims 1-33 have been canceled.

Claims 34-46 are pending in this Application.

Claims 34-46 have been at least twice rejected over prior art and are the subject of this appeal.

Application No.: 10/598,098

June 1, 2010

Reply to Final Office Action dated March 31, 2010

Page 5 of 19

STATUS OF AMENDMENTS:

Appellant has not submitted any amendment after the Final Office Action dated March 31, 2010.

SUMMARY OF CLAIMED SUBJECT MATTER:

Appellant has provided a concise explanation of the subject matter of independent claim 34 below, with specific references to the reference characters, line and page numbers, and the figure numbers of U.S. Application No. 10/598,098 in brackets. Applicant notes, however, that this specific explanation is only by way of example and is not intended to limit Applicant's claimed invention to the specific preferred embodiments described in the specification.

Claim 34

An onboard display device [reference character 1 shown in Fig. 2], comprising:
a display section [reference character 11 and 201 shown in Figs. 1, 2, 14(a), and 14(b)] attached to an instrument panel of a vehicle [discussed in lines 10-15 on page 9 of the specification], said display section being greater in width than in height and having an aspect ratio that is equal to or greater than 7 : 3, the aspect ratio being a width/height ratio of a display area of the display section [shown in Figs. 1, 14(a), and 14(b) and discussed in lines 15-20 on page 11 of the specification], said display section including a first part in which a secondary image including information other than information of the vehicle is displayed [reference character 202a shown in Figs. 14(a) and 14(b)], and a second part in which vehicle condition image including information of the vehicle are displayed [reference character 203a shown in Figs. 14(a) and 14(b)]; and

a display control section [reference character 12 shown in Fig. 2] controlling individual manners in which the display section shows the secondary image and the vehicle condition images [discussed in line 22 on page 29 to line 8 on page 32 of the specification],

under control of said display control section, when the secondary image is displayed at an increased scale [shown in Figs. 14(a) and 14(b) and discussed in lines 3-8 on page 30 of the specification], the secondary image appears partly on a part of a display area for the vehicle

Application No.: 10/598,098

June 1, 2010

Reply to Final Office Action dated March 31, 2010

Page 7 of 19

condition images, and the vehicle condition images are displayed in a different manner [shown in Fig. 14(b) of the drawings and discussed in lines 9-14 on page 30 of the specification].

Application No.: 10/598,098

June 1, 2010

Reply to Final Office Action dated March 31, 2010

Page 8 of 19

GROUND OF REJECTION TO BE REVIEWED ON APPEAL:

The Examiner's rejections of claims 34-36 and 40-46 under 35 U.S.C. § 103(a) as being unpatentable over Nakamura et al. (JP 06-195056) in view of McCarthy et al. (U.S. 6,477,464) and claims 37-39 under 35 U.S.C. § 103(a) as being unpatentable over Nakamura et al. in view of McCarthy et al. and further in view of Breed (U.S. 7,126,583).

ARGUMENT:

Appellant has grouped claims 34-46 together so that claims 35-46 stand or fall with independent claim 34.

Appellant's claim 34 recites:

An onboard display device, comprising:

a display section attached to an instrument panel of a vehicle, said display section being greater in width than in height and having an aspect ratio that is equal to or greater than 7 : 3, the aspect ratio being a width/height ratio of a display area of the display section, said display section including a first part in which a secondary image including information other than information of the vehicle is displayed, and a second part in which vehicle condition image including information of the vehicle are displayed; and

a display control section controlling individual manners in which the display section shows the secondary image and the vehicle condition images,

under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner. (emphasis added)

Claims 34-36 and 40-46 are improperly rejected under 35 U.S.C. § 103(a)

as being unpatentable over Nakamura et al. in view of McCarthy et al.

In the paragraph bridging pages 2 and 3 of the Final Office Action dated March 31, 2010, the Examiner alleged that the combination of Nakamura et al. and McCarthy et al. teaches the features recited in Applicant's claim 34. More specifically, the Examiner alleged that Nakamura et al. teaches:

a display control section controlling individual manners in which the display section shows the secondary image and the vehicle condition images ([0020], [0021], [0027], [0040]), under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images (from Fig 4d to Fig 5b), and the vehicle condition images are displayed in a different manner *(there are many embodiments where the vehicle condition image is in a different manner, demonstrating the capability of the system)*. (emphasis in original)

Applicant's claim 34 recites the feature of "under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner."

Neither Nakamura et al. nor McCarthy et al. teaches or suggests this feature.

As described in line 8 of page 28 to line 4 of page 29 of Applicant's specification, when the secondary image, such as a navigation image, is displayed at an increased scale so that the driver can easily see it, the vehicle condition images, such as the speedometer, tachometer, and other displays, are inevitably produced at reduced size. However, as can be seen in Fig. 13(b) of Applicant's drawings, if the vehicle condition images are displayed at reduced size while a meter corresponding to one of the vehicle condition images is shaped as a circle, a visibility of the vehicle condition images will be decreased so that driving safety will be impaired.

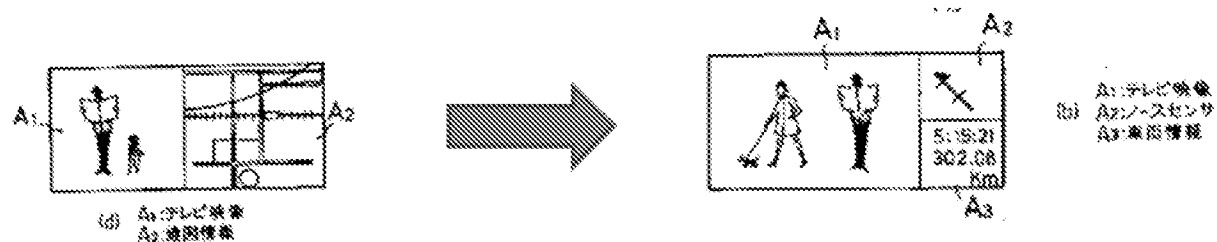
To correct this, in the presently claimed invention, the vehicle condition images are displayed in a different manner when they are shrunk, as shown in Fig. 13(a), so that the visibility of the vehicle condition images is prevented from decreasing. Accordingly, the presently claimed invention provides the effect of a display that can be changed while ensuring improved visibility to the eye of the driver in the concurrent display of a secondary image and a vehicle condition image, thus ensuring the driving safety of the vehicle.

This advantageous effect is particularly notable in a case where the aspect ratio of the display section is set to 7:3 or more, and the respective aspect ratios of the display area serving as the first part for displaying the secondary image and the second part for displaying the vehicle condition images are first set to 3:4 and 3:3, respectively. Then, when the secondary image is increased in size so that the vehicle condition images are decreased in size by increasing the secondary image, it is possible to change the display manner of the vehicle condition images, while preventing the visibility of the vehicle condition images displayed at 3:3 from decreasing. Accordingly, by using this arrangement, it is possible to allow the driver to

continue to drive safely due to the continued readability of the vehicle condition images in spite of their decreased size. Nakamura et al. does not teach or suggest these features.

In the paragraph bridging pages 2 and 3 of the Final Office Action dated March 31, 2010, the Examiner alleged that the Nakamura et al. teaches the feature of “under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images (from Fig 4d to Fig 5b), and the vehicle condition images are displayed in a different manner (there are many embodiments where the vehicle condition image is in a different manner, demonstrating the capability of the system).” Applicant respectfully disagrees.

Contrary to the Examiner’s allegations, when the images on the display of Nakamura et al. are changed from the arrangement of Fig. 4d to the arrangement of Fig. 5b, reproductions of which are provided below, the images are not displayed in a different manner.



Rather, Nakamura et al. merely teaches that different display portions of the display can be resized or replaced with other display portions that show other information. For example, changing between the arrangement of Fig. 4d to the arrangement of Fig. 5b of Nakamura et al. merely results in (1) a display portion that shows a television image A1 is increased, and (2) a display portion that shows GPS information A2 is replaced with a display portion that shows azimuth information A2 (or “nose sensor” as it is labeled in Fig. 5b of Nakamura et al.) and a display portion that shows trip running time and distance A3. That is, contrary to the Examiner’s allegations, the GPS information A2 shown in Fig. 4d of Nakamura et al. is not “displayed in a different manner,” but is instead replaced with entirely different information.

Further, nowhere in Nakamura et al. is there any teaching or suggestion of converting the display format of a specific type of information in the manner as recited in Applicant’s claim

34 and shown, for Example, in Figs. 14(a) and 14(b) of Applicant's drawings. Applicant's invention is directed to a display control section that changes the display manner in which one type of information that is simultaneously displayed with additional information into another display manner. That is, Applicant's invention causes the display device to change the display manner of one type of information when the scale of an image of another type of information is increased. Nakamura et al. neither discloses nor suggests a display control section that changes a display manner of an image of one type of information from a first display manner (for example, a round meter) to a second display manner (for example, bar meter or numerical representation) when the image of the one type of information, e.g. the vehicle condition information, is reduced due to the increase in scale of the image of another type of information.

Accordingly, Nakamura et al. clearly fails to teach or suggest the feature of "under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner" as recited in Applicant's claim 34.

McCarthy et al. merely teaches a scrolling text display 18, as shown in Fig. 1 of McCarthy et al. McCarthy et al. clearly does not teach or suggest the feature of "under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner" as recited in Applicant's claim 34.

Accordingly, Applicant respectfully requests reconsideration and withdrawal of the rejection of claim 34 under 35 U.S.C. § 103(a) as being unpatentable over Nakamura et al. in view of McCarthy et al.

The Examiner relied upon Breed to allegedly cure the deficiencies of Nakamura et al. and McCarthy et al. However, Breed clearly fails to teach or suggest the feature of "under

control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner” as recited in Applicant’s claim 34. Thus, Applicant respectfully submits that Breed fails to cure the deficiencies of Nakamura et al. and McCarthy et al. described above.

Accordingly, Applicant respectfully submits Nakamura et al., McCarthy et al., and Breed, applied alone or in combination, fail to teach or suggest the unique combination and arrangement of elements recited in Applicant’s claim 34.

Accordingly, Applicant respectfully submits that claim 34 is allowable. Claims 35-46 depend upon claim 34, and are therefore allowable for at least the reasons that claim 34 is allowable.

Appellant further submits that the rejections of claims 34-36 and 40-46 under 35 U.S.C. § 103(a) as being unpatentable over Nakamura et al. in view of McCarthy et al. and claims 37-39 under 35 U.S.C. § 103(a) as being unpatentable over Nakamura et al. in view of McCarthy et al. and further in view of Breed should be reversed, and that claims 34-46 are allowable, at least for the reasons discussed above.

Respectfully submitted,

Dated: June 1, 2010

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CLAIMS APPENDIX:

Claims 1-33 (canceled).

Claim 34 (previously presented): An onboard display device, comprising:

a display section attached to an instrument panel of a vehicle, said display section being greater in width than in height and having an aspect ratio that is equal to or greater than 7 : 3, the aspect ratio being a width/height ratio of a display area of the display section, said display section including a first part in which a secondary image including information other than information of the vehicle is displayed, and a second part in which vehicle condition image including information of the vehicle are displayed; and

a display control section controlling individual manners in which the display section shows the secondary image and the vehicle condition images,

under control of said display control section, when the secondary image is displayed at an increased scale, the secondary image appears partly on a part of a display area for the vehicle condition images, and the vehicle condition images are displayed in a different manner.

Claim 35 (previously presented): The onboard display device as set forth in claim 34, wherein displaying the vehicle condition images in a different manner indicates displaying an image of a speed meter that is one of the vehicle condition images while changing the image from a circular-shape to a column-shape.

Claim 36 (previously presented): The onboard display device as set forth in claim 34, wherein displaying the vehicle condition images in a different manner indicates displaying an image of a speed meter that is one of the vehicle condition images while changing the image from a circular-shape to numbers.

Claim 37 (previously presented): The onboard display device as set forth in claim 34, wherein the display section includes 468 or more lines as pixel rows.

Claim 38 (previously presented): The onboard display device as set forth in claim 34, wherein the display section includes 1092 or more lines as pixel columns.

Claim 39 (previously presented): The onboard display device as set forth in claim 34, wherein the display section includes 468 or more lines as pixel rows and 1092 or more lines as pixel columns.

Claim 40 (previously presented): The onboard display device as set forth in claim 34, wherein said display control section fixes one of vertical display lines of the secondary image at a left-hand side and a right-hand side of the secondary image and moves a vertical display line at an unfixed side so as to scale up the secondary image.

Claim 41 (previously presented): The onboard display device as set forth in claim 34, wherein the vehicle condition images include at least an image of a speed of the vehicle, an image of a gear shift, and an image of an amount of fuel, and the secondary image includes at least a navigation image, a camera image, and an image of information useful for a driver or a passenger.

Claim 42 (previously presented): An onboard display system, comprising:
an onboard display device as set forth in claim 34;
an imaging device taking images to and near the front, rear, right, and left of the vehicle;
and
a control device controlling imaging operation of the imaging device so that a front image, a rear image, a right-hand image, and a left-hand image taken by the imaging device are capable of being all simultaneously shown on the display section of the onboard display device.

Claim 43 (previously presented): An onboard display system, comprising:
an onboard display device as set forth in claim 34;
an imaging device taking an image to and near the rear of the vehicle; and
a display control device under control of which the onboard display device, upon a selection of a reverse gear selected to back the vehicle, shows a widthwise elongated image to and near the rear of the vehicle as taken by the imaging device at an aspect ratio more than or equal to 2.3 : 1.

Claim 44 (previously presented): The onboard display system as set forth in claim 42, wherein under control of the control device, the imaging device operates in response to an ignition-induced start-up of an engine, so that a front image, a rear image, a right-hand image, and a left-hand image are capable of being all simultaneously shown on the display section.

Claim 45 (previously presented): A vehicle comprising an onboard display device as set forth in claim 34.

Claim 46 (previously presented): A vehicle comprising an onboard display system as set forth in claim 42.

Application No.: 10/598,098

June 1, 2010

Reply to Final Office Action dated March 31, 2010

Page 18 of 19

EVIDENCE APPENDIX:

None.

Application No.: 10/598,098

June 1, 2010

Reply to Final Office Action dated March 31, 2010

Page 19 of 19

RELATED PROCEEDINGS APPENDIX:

None.